What is claimed is:

1. A cannulation assembly for providing circulatory support, comprising:

a first flow path for transporting blood between a pump and a first predetermined location within the circulatory system of a patient; and

a second flow path for transporting blood between a pump and a second predetermined location within the circulatory system of a patient,

wherein the first and second flow paths are slidably coupled to one another and dimensioned to extend, in use, into the respective first and second predetermined locations through a single incision formed in the vascular system of the patient.

2. The cannulation assembly of Claim 1, wherein the first and second flow paths are disposed in a generally coaxial arrangement with the second flow path disposed at least partially within the first flow path.

3. The cannulation assembly of Claim 1, wherein the first and second flow paths are coupled together in a generally side-by-side arrangement.

4. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with an auxiliary lumen.

5. The cannulation assembly of Claim 4, wherein the auxiliary lumen is sized to receive at least one of a guide wire, a pressure sensor, and an optical instrument.

6. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with an expandable guiding structure.

7. The cannulation assembly of Claim 1, wherein the first flow path intakes blood to the pump and the second flow path outputs blood from the pump.

8. The cannulation assembly of Claim 1, wherein the first flow path outputs blood from the pump and the second flow path intakes blood to the pump.

9. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with at least one of a flow rate sensor, a pressure sensor, and an optical sensor.

10. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with an auxiliary fluid flow lumen.

11. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with a bend for directing the flow path to the respective first or second predetermined location in the circulatory system.

12. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths includes a section of material capable of being selectively deformed to create a bend in the flow path to facilitate guiding the flow path into the respective first or second predetermined

location in the circulatory system.

13. The cannulation assembly of Claim 1, wherein at least one of the first and second flow paths is equipped with a plurality of apertures for facilitating fluid flow into or out of the respective first or second flow paths.

14. The cannulation assembly of Claim 2, wherein the first flow path includes a plurality of drainage apertures to facilitate fluid flow through the first flow path.

15. The cannulation assembly of Claim 14, wherein the second flow path includes a narrow region that, in use, is disposed approximately adjacent to the drainage apertures of the first flow path.

16. The cannulation assembly of Claim 14, wherein the second flow path includes a wide region that, in use, is disposed approximately adjacent to the drainage apertures of the first flow path.

17. A cannulation assembly, comprising:

a first flow path slidably coupled to a second flow path such that the first and second flow paths may be introduced into the vascular system of a patient through a single incision and positioned at respective first and second predetermined locations within the circulatory system of the patient.

18. The cannulation assembly of Claim 17, wherein at least one of the first and second flow paths is independently positionable relative

to the incision after being inserted into the vascular system of the patient.

19. The cannulation assembly of Claim 17, wherein at least one of the first and second flow paths is the distance between a distal end of the first flow path and the distal end of the second flow path may be selectively adjusted by selectively sliding one of the first and second flow paths relative to the other.

20. The cannulation assembly of Claim 17, wherein the first and second flow paths are configured such that, in use, the distal end of the second flow path will be located a fixed distance from the distal end of the first flow path.

21. The cannulation assembly of Claim 17, wherein the first and second flow paths are disposed in a generally coaxial arrangement with the second flow path disposed at ~~least partially~~ within the first flow path.

22. The cannulation assembly of Claim 17, wherein the first and second flow paths are coupled together in a generally side-by-side arrangement.

23. The cannulation assembly of Claim 17, wherein at least one of the first and second flow paths is equipped with an auxiliary lumen.

24. The cannulation assembly of Claim 17, wherein the auxiliary lumen is sized to receive at least one of a guide wire, a pressure sensor, and an optical instrument.

25. The cannulation assembly of Claim 17, wherein at least one of the first and second flow paths is equipped with an expandable guiding structure.

26. The cannulation assembly of Claim 17, wherein the first flow path intakes blood to the pump and the second flow path outputs blood from the pump.

27. The cannulation assembly of Claim 17, wherein the first flow path outputs blood from the pump and the second flow path intakes blood to the pump.

28. The cannulation assembly of Claim 17, wherein at least one of the first and second flow paths is equipped with at least one of a flow rate sensor, a pressure sensor, and an optical sensor.

29. The cannulation assembly of Claim 17, wherein at least one of the first and second flow paths is equipped with an auxiliary fluid flow lumen.

30. The cannulation assembly of Claim 17, wherein at least one of the first and second flow paths is equipped with a bend for directing the flow path to the respective first or second predetermined location in the vascular system.

31. The cannulation assembly of Claim 17, wherein at least one of the first and second flow paths includes a section of material capable of being selectively deformed to create a bend in the flow path to facilitate guiding the flow path

into the respective first or second predetermined location in the vascular system.

32. The cannulation assembly of Claim 17, wherein at least one of the first and second flow paths is equipped with a plurality of apertures for facilitating fluid flow into or out of the respective first or second flow paths.

33. The cannulation assembly of Claim 21, wherein the first flow path includes a plurality of drainage apertures to facilitate fluid flow through the first flow path.

34. The cannulation assembly of Claim 33, wherein the second flow path includes a narrow region that, in use, is disposed approximately adjacent to the drainage apertures of the first flow path.

35. The cannulation assembly of Claim 33, wherein the second flow path includes a wide region that, in use, is disposed approximately adjacent to the drainage apertures of the first flow path.

Sub A2 36. A method for providing circulatory support, comprising:

withdrawing blood from a first predetermined location in the circulatory system of a patient; and

returning the withdrawn blood to a second predetermined location in the circulatory system of the patient,

wherein the steps of withdrawing and returning are performed by providing a cannula

having a first flow path slidably coupled to a second flow path, wherein the first and second flow paths are dimensioned to extend, in use, respectively into the first and second predetermined locations through a single incision formed in the vascular system of the patient.

37. A method for inserting a cannula assembly into a patient, comprising:

forming a single incision in the vascular system of the patient;

providing a cannula assembly having a first flow path slidably coupled to a second flow path;

advancing a distal end of the first flow path through the incision to a first predetermined location within the circulatory system of the patient; and

advancing a distal end of the second flow path through the incision to a second predetermined location within the circulatory system of the patient.

38. A method of circulating fluid through a cannula system comprising a cannulation assembly including at least two flow paths slidably coupled to each other, comprising the steps of:

(1) inserting the cannulation assembly into a first predetermined location in a body through a vascular incision;

(2) establishing flow communication between a first one of the flow paths and the

first predetermined location;

(3) slidably moving a second one of the flow paths into a second predetermined location spaced apart from the first predetermined location;

(4) establishing flow communication between the second flow path and the second predetermined location;

(5) coupling the first and second flow paths to a pump system; and

(6) operating the pump system to transport fluid from the first predetermined location for introduction into the second predetermined location.